Stated Age – Reference Guide

Version 1.0, December 1999

Summary: Stated Age

Definition

Reported age of subject at a defined event.

Data Storage and Field Values

There are 2 data elements used to define the data concept Stated Age. The variable names noted below specifically apply to the reported age of the subject of the report, time not specified. Variable names for other uses of Stated Age, such as age of subject at time of diagnosis, or age of subject at time of enrollment in a treatment regimen, are not discussed in this document but will be discussed in subsequent releases.

Stated Age

Description:	Age of subject at a defined event.
Variable Name:	AGE
Type:	character
Length:	3
Reported to CDC:	TBD
Field Values:	0 – 998

Note: Programs are encouraged to apply an edit check to stated age values that are more than likely out of range relative to the agetype. Specifically, an edit check is advised for stated age values stored in agetype units of years, so that values greater than 150 years are flagged as invalid.

Stated Agetype

Description:	Unit of time for the stated age
Variable Name:	AGETYPE
Type:	character
Length:	1
Reported to CDC:	TBD
Field Values:	

1 – Years
2 – Months
3 – Weeks
4 – Days

Missing Values

If the value of the Stated Age data element is missing, or does not adhere to the CIPHER standard, the data element may be noted as blank to indicate a missing value. If the program requires the reason the value is missing, a separate 1-character field should be used to note the reason for the missing data. The use of a Missing Value Reason data element must adhere to the CIPHER definition and rules associated with missing data as described in Appendix I - Missing Value Reason.

The Agetype data element is a required field and cannot be blank.

Processing Overview

Special requirements apply. Refer to the Implementation subsection on Data Processing: Validations and Edit Checks, below, for detailed information.

EDI Summary

Note: EDI sections are under construction.

Discussion

The Stated Age data concept is defined as the reported age of a subject, on the date of a specific event, as it relates to public health. Basically, the stated age is a reported age at a significant health-related event in the subject's life (e.g., date of diagnosis, date of treatment/intervention, date of death, or date a particular condition was reported to an agency). Consider the Stated Age data concept definition as a template and guideline that can be applied to any Stated Age data element a program area chooses to support. Also note that the number of Stated Age data elements supported can vary across programs.

It is important to note that the Stated Age is a reported age, in contrast to Calculated Age. The Stated Age is obtained from an array of "hard" report sources such as the subject (self-reported age), a medical chart, a lab slip, a data registry, or a report form. The Stated Age can be reported and collected in the absence of birth date and event date data. However, if birth date and event date data are reported and collected in conjunction with Stated Age data, these data are used to validate the Stated Age data using the Validate Age Edit. Basically, the Validate Age Edit is used to perform a test of reasonableness. That is, the collected data are used to validate the reported "stated age" against the "calculated age" (calculated based on date of birth and event date) to see if the ages are consistent. For more information on the Validate Age Edit, refer to the Implementation subsection on Data Processing: Validations and Edit Checks, below, or refer to the section on Calculated Age.

Depending on the particular event and/or age of subject, the unit of measure associated with the age will vary. Years, months, weeks, and days are common units of measurement used in public health reporting. For example, the age in *weeks* at which a newborn was administered a specific therapy would commonly be of interest, in contrast to the age in *years* of an adult subject at diagnosis.

Because ages are collected in various units, the Stated Age data concept consists of a variable storing the stated age itself, as well as a companion variable (Stated Agetype) storing the unit of measure associated with the Stated Age value.

Note: Agetype is a required companion variable, and must be collected, entered, and stored in conjunction with the Stated Age datum.

Implementation: Stated Age

The implementation examples noted below specifically apply to the reported age of the subject of the report, time not specified. The implementation for other uses of Stated Age, such as age of subject at time of diagnosis, or age of subject at time of enrollment in a treatment regimen, can be patterned after these implementation examples.

Data Collection: Hardcopy Report Form

A free-form entry field on the hardcopy report form is used for the collection of Stated Age data. Check-box fields on the hardcopy report form are used to collect the companion Agetype data. The reporter can write in the age in the free-form field, and check or mark the box noting the appropriate agetype. Refer to Figures 1 and 2 below.

Figure 1: Blank Hardcopy Form section used to collect Stated Age

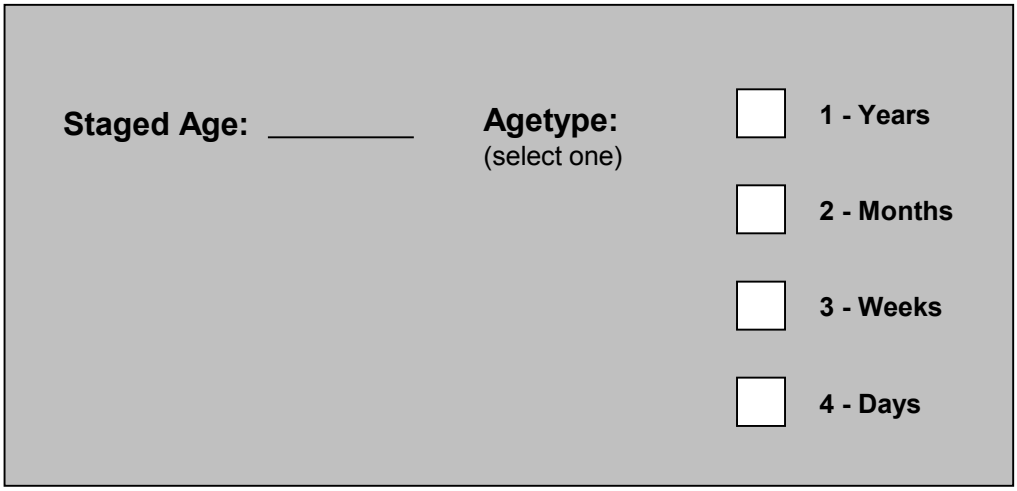
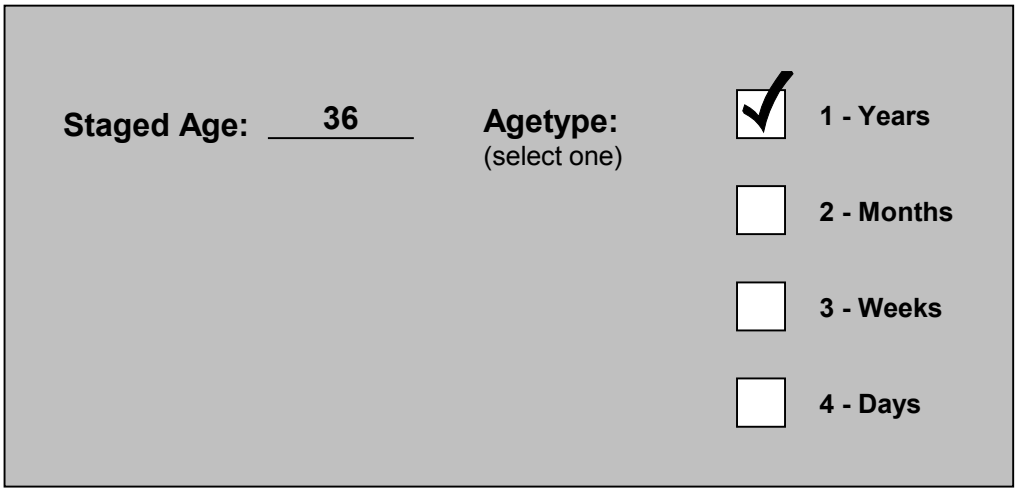


Figure 2: Completed Hardcopy Form section used to collect Stated Age



Missing Values – Hardcopy Form

Examples of hardcopy forms using the associated Missing Value Reason data element can be found in Appendix I – Missing Value Reason. The hardcopy form need only contain a missing value reason if the program requires the rationale for a missing value for Stated Age.

Data Entry: Electronic Forms

A free-form entry field is used for the collection of the Stated Age value. A pull-down menu displays the valid entry options for the companion field, Agetype, and parallels the options noted on the hardcopy collection report form. See Figures 3, 4, and 5 below. The portion of the valid entry options noted outside the parentheses shows the data that are stored. The descriptive labels are within the parentheses.

Figure 3: **Blank Electronic Form used to collect Stated Age**

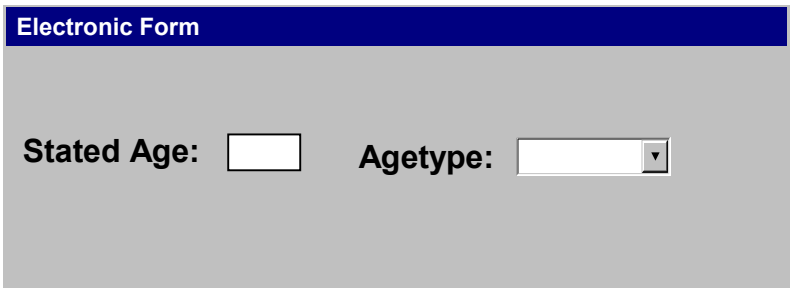


Figure 4: **Electronic Form used to collect Stated Age, with Age entered, and Agetype pull-down menu enabled**

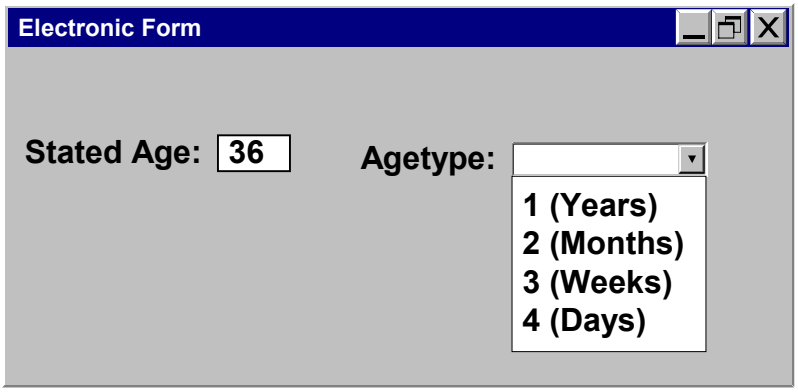
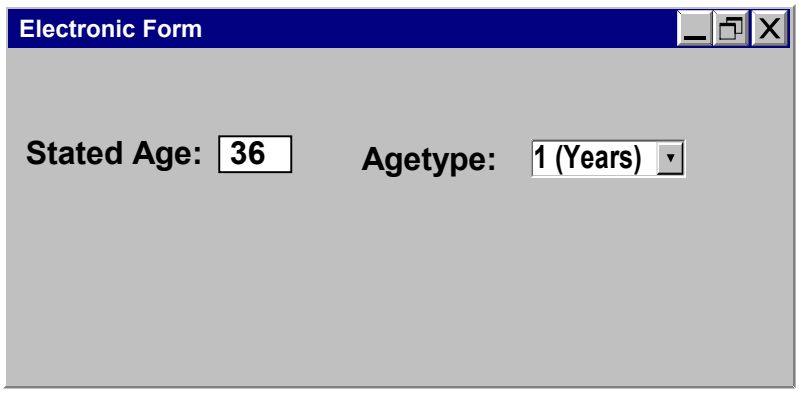


Figure 5: **Completed Electronic Form used to collect Stated Age**



Missing Values – Electronic Form

Examples of electronic forms using the associated Missing Value Reason (MVR) data element can be found in Appendix I – Missing Value Reason. The electronic form needs to handle the Missing Value Reason only if the program requires the rationale for a missing value for Stated Age. If the user selects a missing value reason code during data entry, the Stated Age field will be blank and the screen will display the MVR information next to the blank field.

Data Processing: Validations and Edit Checks

Data elements entered in the electronic form will be edited as outlined below. If the program elects to use an associated Missing Value Reason data element for Stated Age, it will be edited as outlined in Appendix I – Missing Value Reason.

There are several key edit checks and validations associated with the CIPHER stated age data concept. A summary of the edit checks and validations follows.

Stated Agetype Required: The companion data element, Stated Agetype, must be defined and used with the stated age. Valid values are: 1 (Years), 2 (Months), 3 (Weeks), 4 (Days).

Right Justify/Left Pad with Blanks: The stated age is stored in a 3-character variable. The data are to be right justified, and left padded with blanks as needed. For example, an age of **27** is to be stored in 3 character format as **' 27'** (one leading blank, followed by two characters, for a total of 3 characters).

Whole Numbers: The stated age must be a whole number. Fractional age values such at 1.4 years, or mixed time units such as 2 years and 3 months, are not valid and are not allowed. It is suggested that users scale down to the most granular unit when encountering fractional or mixed unit ages. For example, an age of "2 years and 3 months" is to be entered using an agetype of months. Thus, "2 years and 3 months" is entered/stored as follows: *stated age*=**' 27'** *stated agetype*=**'2'** (agetype of 2 indicates "months," as noted above).

Note: If the agetype for "year" is to be collected and stored, and the subject is a newborn less than 1 year old, the stated age value is to be denoted as 0 years old, and therefore stored as follows: *stated age*=**' 0'** *stated agetype*=**'1'** (agetype of 1 indicates "years," as noted above).

Age Ranges: Valid values are in the range of 000-998. However, programs are encouraged to apply an edit check to stated age values that are more than likely out of range as related to the agetype. Specifically, programs are encouraged to apply an edit check to stated age values, stored in agetype units of years, such that age values greater than 150 years are flagged as invalid.

Descriptive Labels: Programs must provide descriptive labels with all Stated Age fields on all hardcopy collection forms and electronic data entry screens. Descriptive labels will provide clarity and distinction among the many Stated Age data elements the program may choose to support.

Validate Stated Age against Calculated Age: An edit check referred to as the Validate Age Edit must be supported if birth date and event date data are reported and collected in conjunction with the Stated Age datum. Basically, the Validate Age Edit is used to perform a test of reasonableness. That is, the collected data are used to validate the reported "stated age" against the "calculated age" (calculated based on date of birth and event date) to see if the ages are consistent. (Refer to the section on Calculated Age for detailed information on calculated age algorithms.)

If the Validate Age Edit identifies the stated age value as consistent and in compliance with the calculated age, processing will continue uninterrupted. If the Validate Age Edit detects an inconsistency between the stated age and the calculated age, however, an alert message box must be posted to alert the user to the inconsistency, as well as to provide the user with an opportunity to adjust and correct data accordingly. Additional information on the Validate Age Edit is noted below.

Validate Age Edit

The purpose of this edit is to cross check the stated age with a calculated age value to see if they are consistent, that is, to perform a reasonableness test. If the result is that the stated age is consistent/compatible with the calculated age value, processing will continue. If the result shows they are inconsistent, an alert message will appear and require a decision and input by the user to continue processing.

The algorithm used to derive the calculated age value for the incident uses four input parameters: the stated age value, the stated agetype, the person's date of birth, and the incident date. The algorithm will determine a calculated age value and agetype that is compared with the stated age and agetype values. The output parameter is either yes (the two values are consistent) or no (the two values are not consistent). If they are not consistent, an alert will appear on the screen informing the user of the discrepancy and allowing corrections to related information. If new or additional information is not available, or the discrepancy is real, the user can accept the entered stated age if it passes all the other edits.

The Validate Age Edit requires information in all four input parameters to perform. If the edit determines that it cannot calculate an age value, this validation is skipped and the system relies on the other defined edits to process Stated Age data entry values. This situation will occur if the person's date of birth and/or the incident date is missing (i.e., blank). This can be caused by a missing value for a date, or by entering the data out of order. For example, if the stated age is entered before the incident date, a calculated age for the incident cannot be derived and the edit will be skipped.

The Validate Age Edit accommodates missing date components as permitted by the CIPHER date definition (see Appendix II - Dates) when calculating an age value. The pattern of missing date components can affect the agetype of the calculated value, so that it is not in the same agetype as the stated age. For example, if the person's date of birth is fully defined but the incident date has only years (month and day are blank) the calculated age value will be in years. The comparison of the stated and calculated age values will use conversions between the agetypes (i.e., 52 weeks in a year) to determine if they are consistent.

Note: To support this edit, the data elements defined for the Stated Age at the time of an incident need to be linked systematically to those required to calculate the age at the time of the incident.

Several examples are outlined below to illustrate the Validate Age Edit input and output parameters. For these illustrations, dates are formatted as month, day, year (MM/DD/YYYY).

1. Person Date of Birth (DOB) and Incident Date Fully Defined

Input Parameters		Comparison	Output Parameter
DOB:	06/12/1995	Calculated Age: 47 months	Yes
Incident date:	05/31/1999	Stated Age: 207 weeks	
Stated age:	207		
Stated agetype:	3 for weeks		

2. Person Date of Birth (DOB) Partially Defined and Incident Date Fully Defined

Input Parameters		Comparison	Output Parameter
DOB:	06/ /1995	Calculated Age: 47 months	Yes
Incident date:	05/31/1999	Stated Age: 207 weeks	
Stated age:	207		
Stated agetype:	3 for weeks		

3. Person Date of Birth (DOB) Partially Defined and Incident Date Fully Defined

Input Parameters		Comparison	Output Parameter
DOB:	06/ /1995	Calculated Age: 47 months	No
Incident date:	05/31/1999	Stated Age: 208 weeks	
Stated age:	208		
Stated agetype:	3 for weeks		

4. Person Date of Birth (DOB) Partially Defined and Incident Date Partially Defined

Input Parameters		Comparison	Output Parameter
DOB:	06/ /1995	Calculated Age: 3 years	Yes
Incident date:	05/ /1999	Stated Age: 3 years	
Stated age:	3		
Stated agetype:	1 for years		

5. Person Date of Birth (DOB) Partially Defined and Incident Date Partially Defined

Input Parameters		Comparison	Output Parameter
DOB:	/ /1995	Calculated Age: 0 years	Yes
Incident date:	12/ /1995	Stated Age: 11 months	
Stated age:	11		
Stated agetype:	2 for months		

6. Person Date of Birth (DOB) Fully Defined and Incident Date Missing

Input Parameters		Comparison	Output Parameter
DOB:	10/24/1978	Calculated Age: N/A	Skip
Incident date:	/ /	Stated Age: 11 months	
Stated age:	11		
Stated agetype:	2 for months		

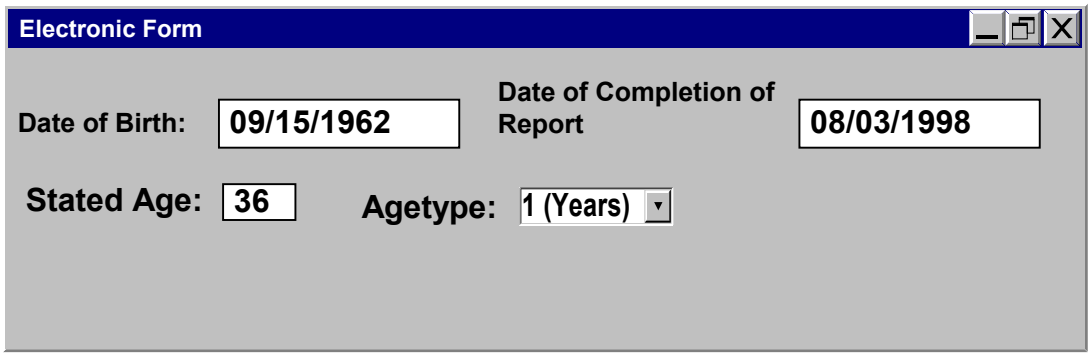
7. Person Date of Birth (DOB) Missing and Incident Date Fully Defined

Input Parameters		Comparison	Output Parameter
DOB:	/ /	Calculated Age: N/A	Skip
Incident date:	09/05/1998	Stated Age: 12 years	
Stated age:	12		
Stated agetype:	1 for years		

Refer to the figures below for examples of processing/edit checks involved in the electronic entry of Stated Age data. In addition to Stated Age and Stated Agetype data, the Date of Birth and Date of Collection of Report data are also illustrated in the example, to demonstrate the Validate Age Edit feature.

Note: The electronic screens illustrated in the figures below were drafted by the CIPHER workgroup prior to the release of the CDC User Interface Style Guide. Refer to the draft CDC User Interface Style Guide for standards and guidelines on the development of CDC Windows and Web-based surveillance applications. The guide will provide further information and specifications on how these screens should appear to the user, and how the user will interact with the application.

Figure 6: **Data that pass the Validate Age Edit**



Field validation processing upon data entry to electronic form (not apparent to the user):

Perform Validate Age Edit:

Input Parameters:
Stated Age = 36
Stated Agetype = 1 for years
DOB = 09/15/1962
Incident Date = 08/03/1998

Comparison:
Calculated Age = 36 years
Stated Age = 36 years

Output Parameter:
Yes (passes validation)

Redisplay the electronic form upon field validation processing, all edits passed:

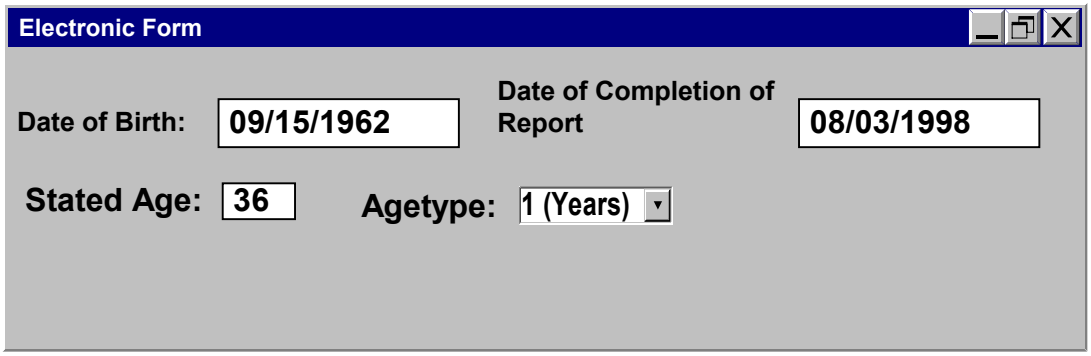
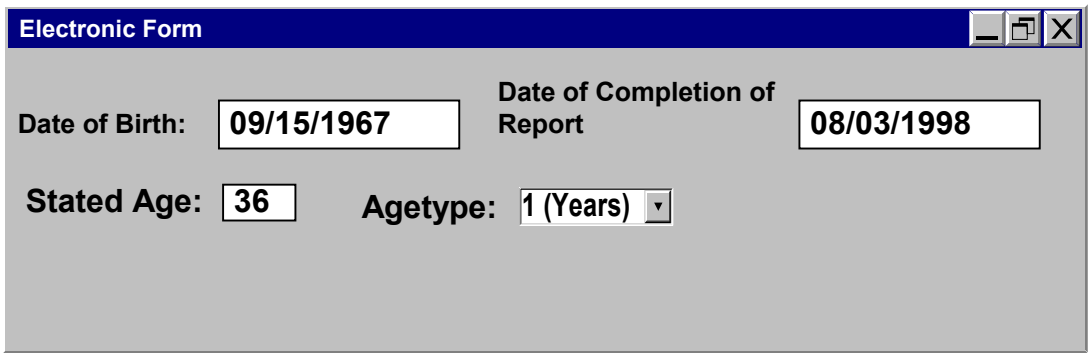


Figure 7: **Data that fail the Validate Age Edit**



Field validation processing upon data entry to electronic form (not apparent to the user):

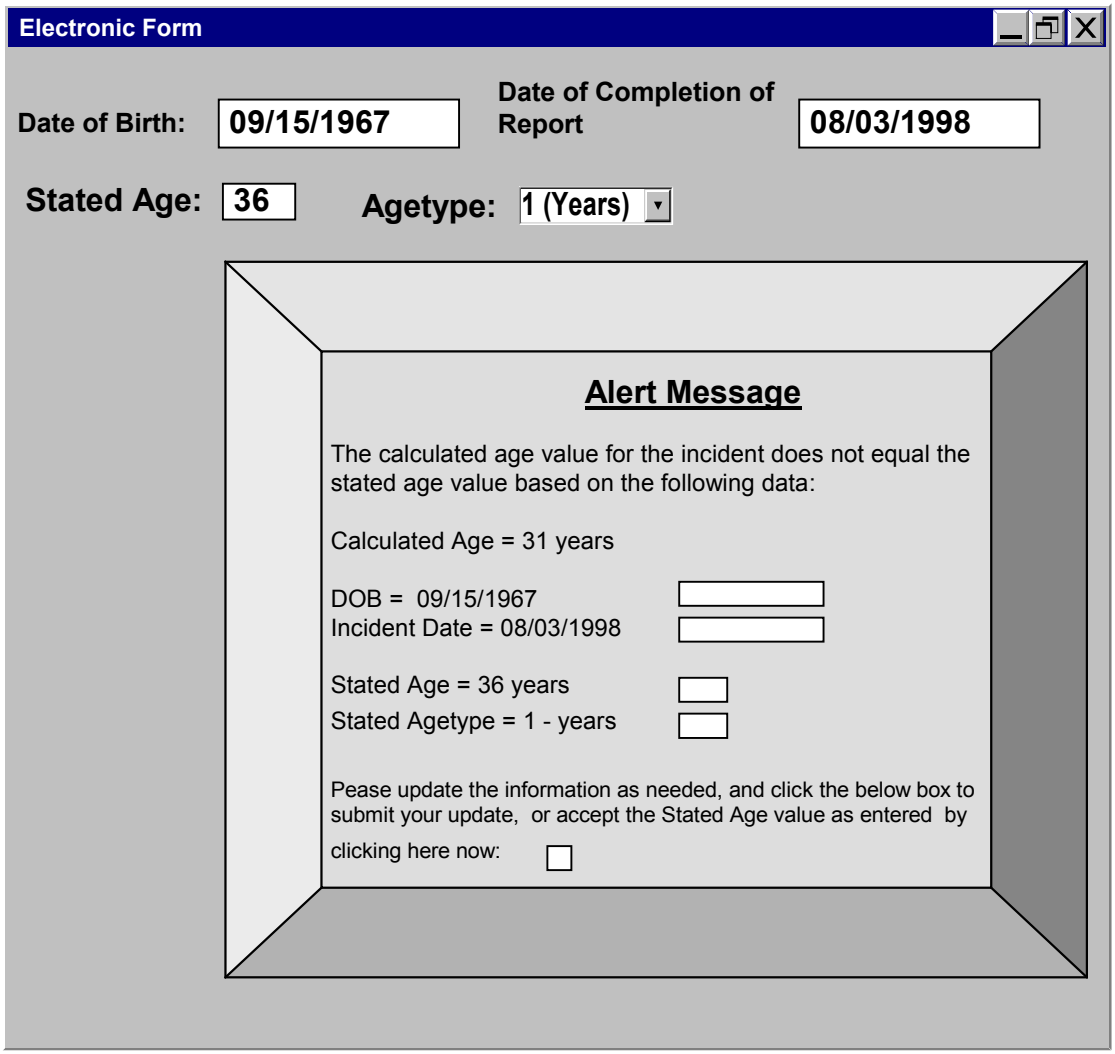
Perform Validate Age Edit:

Input Parameters:
Stated Age = 36
Stated Agetype = 1 for years
DOB = 09/15/1967
Incident Date = 08/03/1998

Comparison:
Calculated Age = 31 years
Stated Age = 36 years

Output Parameter:
No (fails validation)

Redisplay the electronic form with an alert message requesting user action:



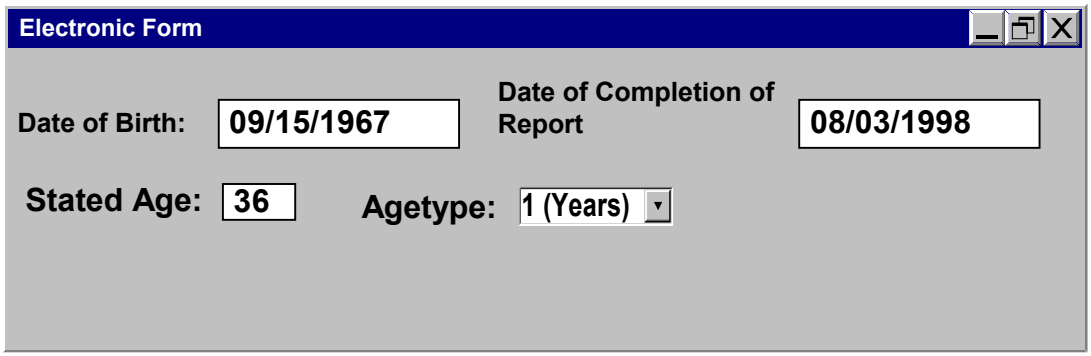
There are two possible scenarios when the Validate Age Edit fails:

Scenario One- Make no corrections and accept

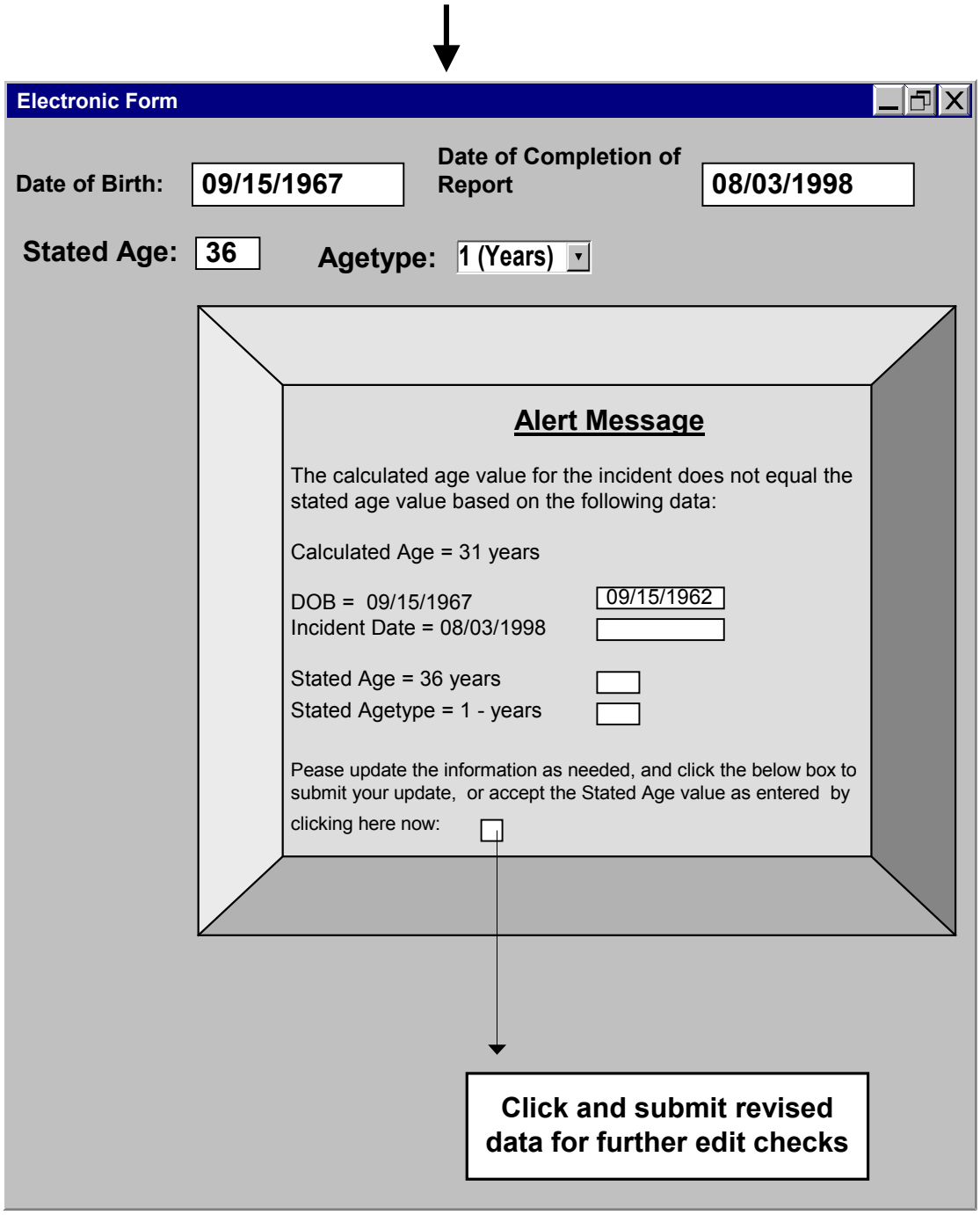
Scenario Two – Correct and resubmit for edit

Scenario One – Accept Stated Age as is, Click on box in Alert Message with no updates made to data

Redisplay the electronic form upon field validation processing, all edits bypassed:



Scenario Two – Correct the Information in Alert Message (e.g., correct DOB to read 09/15/1962)



Perform field validation processing upon entry of corrected data (not apparent to the user):

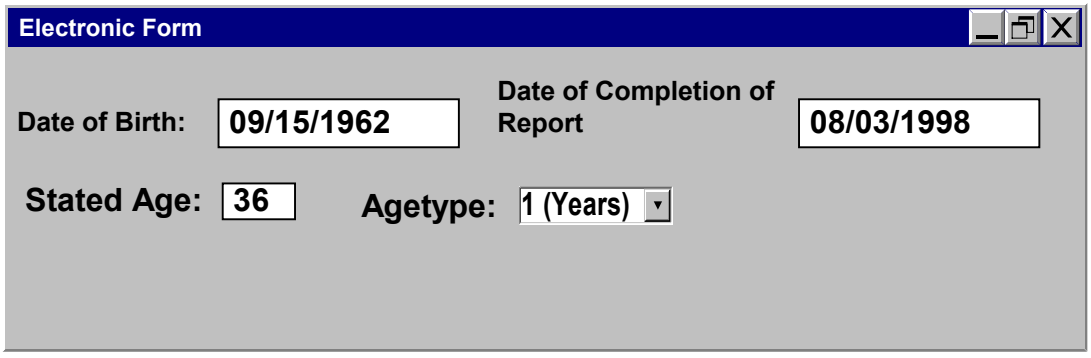
Perform Validate Age Edit:

Input Parameters:
Stated Age = 36
Stated Agetype = 1 for years
DOB = 09/15/1962
Incident Date = 08/03/1998

Comparison:
Calculated Age = 36 years
Stated Age = 36 years

Output Parameter:
Yes (passed validation)

Redisplay the electronic form upon field validation processing, all edits passed. Note the date of birth displayed reflects the corrected data of birth of 09/15/1962:



Data Processing: From Hardcopy to Storage

The following example illustrates the flow of information from data collection on the hardcopy form, to data entry into the electronic form, to validations and storage in the database.

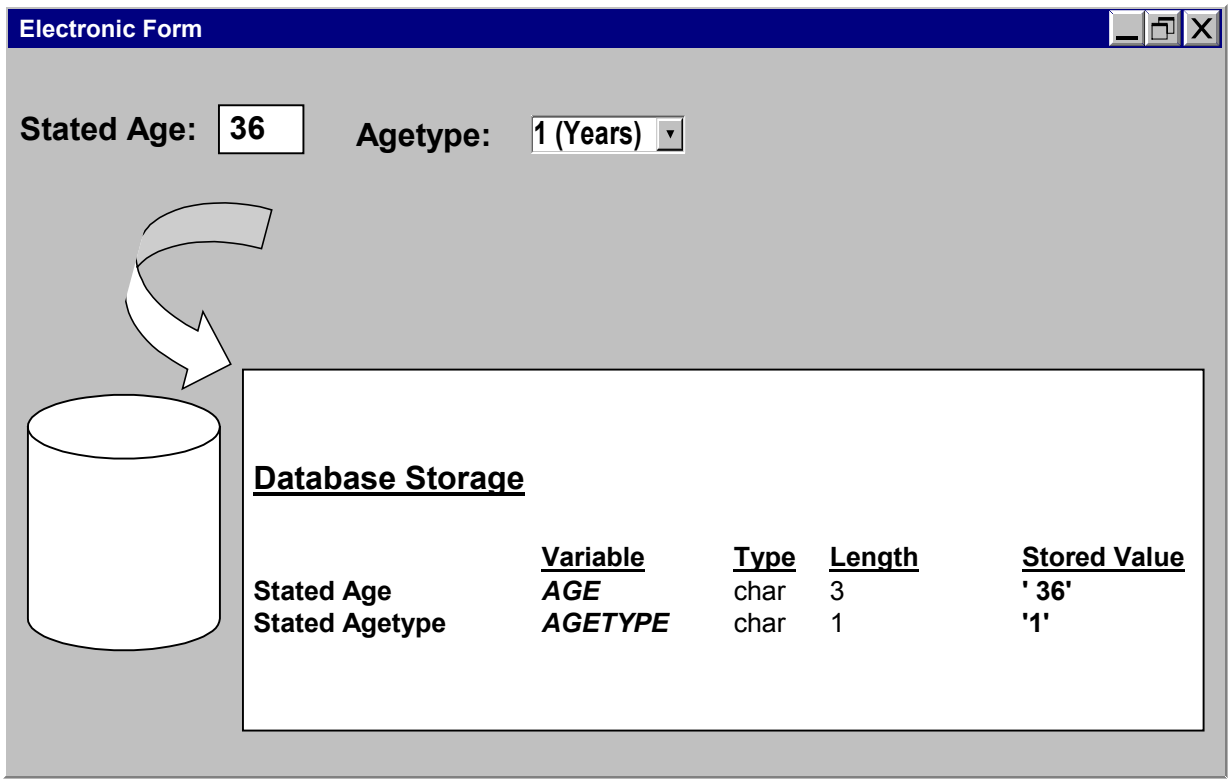
The process begins with the blank Hardcopy data collection form used to collect Stated Age and Stated Agetype:

The Stated Age and Stated Agetype information is captured on the form, creating a completed Hardcopy data collection form:

The process continues with a blank Electronic form/data entry screen used to capture Stated Age and Stated Agetype:

The value from the hardcopy form is entered into the Electronic form/data entry screen with the use of a drop-down list of valid values for Stated Agetype, and then the edits and validations are performed on Stated Age/Stated Agetype:

The completed Electronic form/data entry screen is redisplayed and Stated Age and the associated Agetype are stored in the database:



Data Transmission: Electronic Data Interchange

Note: EDI sections are under construction.